CITY OF CINCINNATI
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING

# RULES AND REGULATIONS

FOR

ENGINEERING DESIGN OF STREETS FOR
PRIVATE SUBDIVISIONS OR DEVELOPMENTS

AND

PROCEDURE IN OBTAINING APPROVAL
AND ACCEPTANCE THEREOF

CINCINNATI, OHIO
MARCH 1, 1996

| ENGLISH DATE TO METRIC (Soft Conversion) | | MODIFIED METRIC TO EQUIVALENT ENGLISH (Hard Conversion) | |
|---|---|---|---|
| 1/2" = | 0.013m | 0.01m = | 0.39" |
| 1" = | 0.0254m | 0.03m = | 1.18" |
| 2" = | 0.0508m | 0.05m = | 1.97" |
| 2.75"= | 0.0699m | 0.07m = | 2.76" |
| 3" = | 0.0762m | 0.08m = | 3.15" |
| 5" = | 0.127m | 0.13m = | 5.12" |
| 6" = | 0.152m | 0.15m = | 5.91" |
| 7" = | 0.178m | 0.18m = | 7.09" |
| 8" = | 0.203m | 0.2m = | 7.87" |
| 9" = | 0.229m | 0.23m = | 9.06" |
| 10" = | 0.254m | 0.25m = | 0.94" |
| 12" = | 0.305m | 0.3m = | 11.81" |
| 18" = | 0.4572m | 0.46m = | 18.11" |
| 24" = | 0.61m | 0.61m = | 24.02" |
| 30" = | 0.762m | 0.76m = | 29.92" |
| 36" = | 0.914m | 0.91m = | 35.83" |
| 42" = | 1.067m | 1.07m = | 42.13" |
| 1′ = | 0.305m | 0.3m = | 0.98′ |
| 2′ = | 0.61m | 0.61m = | 2′ |
| 2.25′ = | 0.686m | 0.69m = | 2.26′ |
| 2.5′ = | 0.762M | 0.76m = | 2.49′ |
| 2.75′ = | 0.838m | 0.84m = | 2.76′ |
| 3′ = | 0.914m | 0.91m = | 2.99′ |
| 3.5′ = | 1.067m | 1.07m = | 3.51′ |
| 4′ = | 1.219m | 1.2m = | 3.94′ |
| 5′ = | 1.524m | 1.5m = | 4.92′ |
| 5.25′ = | 1.60m | 1.6m = | 5.25′ |
| 6′ = | 1.829m | 1.8m = | 5.91′ |

| | | | | | |
|---|---|---|---|---|---|
| 7′ | = | 2.134m | 2.1m | = | 6.89′ |
| 8′ | = | 2.438m | 2.44m | = | 8.01′ |
| 10′ | = | 3.048m | 3.05m | = | 10.01′ |
| 14′ | = | 4.72m | 4.72m | = | 14.01′ |
| 18′ | = | 5.486m | 5.49m | = | 18.01′ |
| 20′ | = | 6.096m | 6.1m | = | 20.01′ |
| 25′ | = | 7.620m | 7.5m | = | 24.93′ |
| 26′ | = | 7.925m | 7.9m | = | 26.92′ |
| 28′ | = | 8.534m | 8.53m | = | 27.99′ |
| 30′ | = | 9.144m | 9.14m | = | 29.99′ |
| 32′ | = | 9.754m | 9.75m | = | 31.99′ |
| 36′ | = | 10.973m | 11.0m | = | 36.09′ |
| 40′ | = | 12.192m | 12.2m | = | 40.03′ |
| 44′ | = | 13.411m | 13.4m | = | 43.96′ |
| 50′ | = | 15.240m | 15.24m | = | 50′ |
| 60′ | = | 18.288m | 18.3m | = | 60.04′ |
| 104′ | = | 31.699m | 31.7m | = | 104′ |
| 110′ | = | 33.528m | 33.5m | = | 109.91′ |
| 150′ | = | 45.720m | 45.7m | = | 149.93′ |
| 300′ | = | 91.440m | 91.44m | = | 300′ |
| 400′ | = | 121.920m | 121.9m | = | 399.93′ |
| 500′ | = | 152.400m | 152.4 | = | 499.99′ |
| 200 s.f. | = | 18.58m² | 18 s.m. | = | 193.75 s.f. |
| 5 Ac | = | | 2ha | = | 4.94 Ac |
| 20,234.28m² | | | | | |
| 2.023 ha. | | | | | |
| 200 c.y. | = | 152.91m³ | 153m³ | = | 200.12 c.y. |

**Foreword**

During 1946, in reviewing the plans for the greatly increased number of new subdivision developments which were submitted for approval, it was found that there was considerable variance in the manner in which the plans were presented and in the degree of completeness of the engineering details included therein. In a great many cases, this resulted in considerable loss of time, both to the City and to the developer, and in a fair amount of additional expense to the developer which could have been avoided had the plans been in proper shape when originally presented. Therefore, in order to avoid this confusion and expense, and to comply with the provisions of Ordinance No. 190-1947, passed April 30, 1947, the City Manager, on July 1, 1947, approved a set of rules and regulations prepared so that the developer and his engineer could incorporate all pertinent required features in his original plan and thereby expedite the processing of that plan to the Planning Commission and the various administrative departments. The original publication was revised and reissued effective October 26, 1964; the second revision on January 1, 1971, and the third revision on June 2, 1992. This fourth revision occurs approximately 3½ years after the previous revision, the shortest period between reissues. Such a relatively quick reissuance results from a desire to keep procedures and requirements current in an environment of rapidly changing circumstances in the private and public sectors.

In initiating plans for a new subdivision development, owners, developers, engineers, and other agents are referred to the "Rules and Regulations of the Cincinnati City Planning Commission for the Subdivision of Land," which sets forth the subdivision platting rules for subdivisions within the City of Cincinnati. The Regulations and instructions hereinafter set forth are concerned primarily with the engineering and infrastructure features to be included in the subdivision plan. However, in order that a more complete picture may be presented to the developer, certain other items of information have been set down. Generally, requirements contained within this manual must be adhered to strictly. Requests for exceptions may be petitioned to the Cincinnati City Engineer.

This publication incorporates the Federal Government's requirement for a shift to metric measurements for public improvement projects. The measurements in this publication remain in English units with metric (SI) equivalents shown in parentheses. A chart showing the measurements most commonly found in this publication and their metric equivalents is included for the convenience of all users. Two conversion styles are included; hard conversion and soft conversion. Soft conversion requires metric equivalents to three or more significant places, in order to provide as near an exact equivalent value as possible. Hard conversion is rounding off to two significant places. Generally, conversions contained within are of the hard style.

Mathematical formulas for conversion of English to Metric and Metric to English are as follows.

**English to Metric**

**Number of feet times 0.3048 = number of meters**

**Metric to English**

**Number of meters times 3.2808 = number of feet**

The intent of the City of Cincinnati is to eventually review subdivision improvement plans and record plats digitally with all sets of plans submitted in a digital format compatible with the system utilized by the City of Cincinnati. Once the digital system is in place, the review process will be the same as that outlined below for paper sets of plans.

## I GENERAL INFORMATION AS TO PROCEDURE IN OBTAINING APPROVAL OF IMPROVEMENT PLATS - (PAPER PLAN SUBMISSION)

A. The developer or the developer's engineer shall discuss the proposed Subdivision Improvement Plan, while still in concept form, with the staff of the City Planning Commission so that a mutual agreement can be reached as to the general street plan and orientation of lots. Additionally, Cincinnati Water Works (C.W.W.) and Metropolitan Sewer District (M.S.D.) require separate submissions for concept approval. These submissions may be in the form of a sketch of the proposed development along with a written application.

If the developer or the developer's engineer desires, concept plans may be discussed with all necessary City agencies simultaneously in a meeting arranged through Engineering/Highway Design.

Depending on the degree of completeness of the concept plan, the "initial review" stage may be omitted from the review process.

1. The developer's preliminary plan and the Water Works application is to be completed by the developer's engineer and submitted to Water Works Engineering System Facilities Section for processing, in order to obtain Water Works concept approval.

2. All sanitary sewers shall be in accord with M.S.D. rules and regulations. The developer's engineer shall determine whether the proposed subdivision is within a flood prone area as determined by the U.S. Department of Housing and Urban Development, Federal Insurance Administration. Maps prepared for this purpose are available in the Cincinnati Engineering Division.

3. After MSD has granted concept approval for sanitary sewers, the developer, through his engineer, shall submit detailed plans for review and approval for design but not for construction. After the sanitary sewers design is approved, the developer's engineer shall submit the Permit To Install Forms and fees to MSD who will forward them to OEPA for approval. OEPA approval requires six (6) to eight (8) weeks. Construction approval for sanitary sewers will not be given prior to OEPA approval.

B. Upon preparation of the Subdivision Improvement Plans, six (6) sets of prints should be submitted to Cincinnati Planning Department as soon as possible for a quick initial review by Planning, Public Works/Engineering (PW/E), Traffic Engineering, Metropolitan Sewer District (MSD), Storm Water Management Utility (SMU), Cincinnati Water Works (CWW), and Cincinnati Park Board, Urban Forestry Management Section (UFMS).

1. Initial review comments by the above agencies will enable preparation of more complete plans for the formal review and correct any major faults in the plans.

2. Comments will be returned to developer's engineer. Developer will be required to provide funds for review by PW/E and SMU.

3. Developer will be required to provide funds to MSD for MSD review.

C. Twelve (12) sets of prints are submitted to City Planning which forwards eleven (11) sets to PW/E for a City agency review. Public Works/Engineering will be the coordinating agency for the remainder of the review process. When all agencies have reported to PW/E, review comments will be transmitted to the developer's engineer.

Comments/requirements of private utilities (CG&E, Cincinnati Bell and Warner Cable) are the responsibility of the developer's engineer. All existing and proposed private utility locations must be present on plan, prior to approval by the City of Cincinnati.

D. When all requested revisions to the plans have been made, four (4) sets of prints should be returned to PW/E. A meeting of City agencies will be held to review plans and coordinate utility locations. Comments/revisions will be conveyed to the developer's engineer.

E. When all revisions resulting from the review are performed, two (2) sets of revised plans should be provided to PW/E for a "final" review. Confirmation of acceptance by private utilities of the final plans is required prior to approval by City Planning. Written notification to PW/E from the utility is required.

F. If all requested revisions have been made and the plans are now acceptable, they will be presented to City Planning Commission for approval. (Planning Commission meetings are generally held on the first and third Friday morning of every month.) All utility proposals must be included in plans, including final CWW plans.

G. Upon approval by the City Planning Commission of the improvement plan, twenty-one (21) sets of prints are required for distribution to all necessary City agencies. All submitted sets of prints will be stamped by Planning, PW/E, SMU and MSD. Two (2) sets of mylars must be provided for MSD and PW/E.

H. Upon determination that the improvement plan is acceptable to the City, the developer and the developer's contractor must fulfill the terms and conditions indicated in the "Permit Application for Private Improvement of Undedicated Streets under City Supervision".

I. The Subdivision Improvement Plan permit may require a Surety for the purpose of guarding against damage to existing streets as a result of utility tie-ins, heavy equipment movement or other construction operations.

J. After securing the street and sewer permits and obtaining Cincinnati Water Works (CWW) concept approval, the developer's engineer should prepare the engineering design and water main plans in accordance with CWW standards and practices. The water main plans will only be reviewed by Water Works, with appropriate corrections noted. The developer's engineer will make the necessary corrections and submit an original mylar to CWW for approval. After the water main mylar has been approved by CWW, the developer's contractor must process a letter of intent and post a contractors bond in the amount specified by the CWW as a performance bond and a one year guarantee for any repairs or maintenance. After a permit has been issued by Public Works Engineering and CWW approval has been granted, the developer's contractor may proceed with the water main installation.

   1. Water service branches to the new water main being installed as part of the subdivision construction must be shown on the approved CWW plan. Generally, service branches 2 inches (0.05m) in diameter and smaller will be installed by the developer's contractor from the water main to the appropriate property lines. This contractor must have a certificate of competency issued by the CWW. The developer is required to post a developer's bond in an amount specified by CWW per CWW regulation.

   2. All service branches larger than 2 inches (0.05m) in diameter will be installed by the CWW Distribution Division and do not require a bond but payment of full installation charges.

K. When water main easements are being offered for acceptance, the Public Works Engineering Division should transmit the original subdivision record plat (mylar) to the CWW for approval by the Water Works Engineering System Facilities Section; or possibly routed from MSD to CWW and back to the Engineering Division.

L. When the final plan has been approved by the necessary City agencies and the Permit Application executed, work may commence. Approval of the Permit Application by the City Manager prior to commencement of work is not required. However, if the Permit Application does not receive approval of the Director of Public Works, work on the improvement must cease. The City will not be liable for damages under those circumstances.

M. When all work is completed to the satisfaction of the City Engineer, a one-year warranty period on all work, as contained within the Subdivision Improvement Plan and documents, is required. A bond in an amount determined by Public Works/ Engineering and Engineering/Construction Management must be provided by the owner or developer. Appropriate forms will be provided by PW/E.

N. Upon expiration of the warranty period, and if all work has remained satisfactory, the City Manager will release the City bond. Any and all excess review and inspection monies will be refunded. If any remedial work is required prior to release of the City bond, the owner/developer will be notified. All CWW bonds will be controlled by CWW and released according to CWW regulations.

## II CHARGES FOR REVIEW OF ENGINEERING DETAILS AND FOR FIELD ENGINEERING

A. Section 721-53 & 55 of the Cincinnati Municipal Code provides that a schedule of prices chargeable by the Engineering Division shall be established by the City Engineer for the review of private improvements under City supervision. Such charges are to be based on the nature of the services rendered and on the time required for performance. Charges are to be computed on the basis of current costs. The rates are subject to change by the City to conform to future changes in wage rates.

B. Sections 721-47 & 49 of the Cincinnati Municipal Code requires that any owner of an undedicated street that wishes to privately improve it under City supervision must deposit sufficient monies with the City to recompense for anticipated City inspection costs. Such charges are to be based on the current rate multiplied per linear foot of roadway pavement as measured along the centerline. Included in the calculation for inspection charges will be the length of storm sewer construction outside the roadway pavement as measured along the centerline of such work.

C. The subdivider, or the subdivider's agent, is required to deposit with the E/HD Section a sum of money payable to the City Treasurer, in an amount to be determined by the City Engineer for each application, before a plan will be considered for review. This sum will be deposited in a fund for reviewing engineering details of undedicated streets which will be charged for the cost of engineering services as outlined above. The City will require additional deposits to this fund if the original deposit proves inadequate.

D. The subdivider or the subdivider's agent will be required to deposit, with the Traffic Engineering Division, a sum of money payable to the City Treasurer, in an amount determined by the City Traffic Engineer, as prepayment for the removal or relocation, by City forces, of traffic control or City street lighting equipment which is made necessary by the proposed subdivision construction. Should the actual cost of the removal or relocation exceed the predeposit, the Traffic Engineering Division will bill the subdivider or his agent for the difference. If less, the remainder will be refunded.

E. Reference to the section in this manual entitled "Traffic Engineering Procedures" should be made during preparation of all improvement plans; Section VIII, this manual.

F. When the Construction Engineer of the Division of Engineering certifies that no further field engineering service will be required for the improvement, the City Engineer will prepare a voucher in favor of the Depositor refunding any balance remaining in his account, provided that no outstanding monies are owed to the City.

G. Charges for engineering review for the water main plans by the Water Works Engineering Division will be done in accordance with Section 401-13 Rule 7 and rates established by the Water Works Department from time to time. Water Works review charges are established to be consistent with charges established periodically by the Public Works Engineering Division.

H. Charges for Water Works construction inspection, material inspection, pressure, disinfection and bacterial testing for the water main and service branch installations will be done in accordance with Section 401-13. The developer's contractor will be billed for these Water Works charges as required.

I. Charges for engineering review for the sanitary and/or combined sewer plans by The Metropolitan Sewer District's Wastewater Engineering Division will be done in accordance with Article V, Section 509 of MDS Rulesand Regulations.

J. Charges for MSD inspection for sanitary and/or combined sewer installation will be in accordance with the rates established by the Hamilton County Commissioners. The developer's contractor will be billed for the required MSD inspection.

K. Charges for engineering review of the storm sewer plans by the Stormwater Management Utility Division will be in accordance with Stormwater Management Utility Division Rules and Regulations, Chapter 13, Section 3.3.1 E.

## III SUBDIVISION IMPROVEMENT PLAN
## GENERAL

A. The "Rules and Regulations of the City Planning Commission for the Subdivision of Land" states in a general way the details relative to the proposed work to be done by the subdivider which should be shown on the subdivision improvement plan. The regulations and instructions hereinafter set forth are intended as an amplification of those general instructions to enable a developer or the developer's engineer to so prepare the subdivision improvement plan that the review and approval thereof will be expedited.

1. Developers of subdivisions of private property are required by regulation to indicate on the drawing the engineering details of all existing and proposed facilities and services, which include street pavements, sidewalks, sanitary and storm sewers, inlets, gas mains, fire hydrants, water mains, street lights, street trees and any other item to be constructed, exclusive of buildings.

2. Each plat or plan, when filed with public authorities for review and approval, must bear the stamp of the seal prescribed by the State Board of Registration for Professional Engineers and Surveyors. Plats or plans not bearing such a stamp will not be given consideration by the various City departments.

3. All elevations shown on the subdivision improvement plan and on the final plat shall be referenced to the City Bench Mark System, using the nearest permanent Bench Mark. Each plat shall show a complete description of the location and elevation of the bench mark(s) used by the engineer for the subdivision survey.

   All subdivisions will be referenced to the State Plane Coordinate System with a minimum of two monuments, providing that the system is in place.

4. The plan shall usually be drawn to a scale of 20 (6.1m), 30 (9.14m), 40 (12.19m), or 50 (15.24m) feet, to the inch; if plans are prepared in a Metric style, Metric Standards shall govern plan scale. The Engineering Division prefers a 20 scale, if practical. The profile shall be drawn to the same scale horizontally, and usually ten feet to the inch vertically. However, the same scale shall be maintained throughout any one project. Where necessary, an enlarged drawing shall be made to show details. A 20 scale (6.1m) plan of the roadway and related improvement may be required, regardless of the overall scale of the plan.

5. When access to a proposed subdivision is over a right-of-way adjacent to one or more parcels of land not owned by the subdivider, the engineer for the subdivider shall submit, with the improvement plan, cross sections of the proposed entrance street for the entire length of the adjacent property.

    a. If grade easements are required from the adjacent property, the subdivider shall submit written evidence that the subdivider has the legal right to grade the adjacent property.

    b. If retaining walls are required to support the adjacent property, the subdivider shall submit detailed wall plans showing the contemplated work. Walls shall <u>not</u> be within street right-of-way. Approval of the wall design will rest with the Structures Section of the Cincinnati Engineering Division.

6. If existing driveways or other physical features are disturbed on the adjacent property, the subdivider shall furnish written evidence as to the consent by the owner to the necessary work to adjust the proposed subdivision street into the rights of the adjacent property owner.

7. Sidewalks must be constructed along these adjacent parcels of land at the subdivider's cost and the remainder of the sidewalk space must be <u>sodded</u> and so indicated on the plan. <u>Seeding as an alternate is not acceptable</u>.

8. Street trees must be planted by the Developer after sidewalk construction and final grading of the sod areas of the rights-of-way is deemed to be complete, as per Engineering/Construction Management. Size, number and species of trees must be approved by UFMS.

9. The following notes must appear on the subdivision improvement plan:

The approval of this plat by the City of Cincinnati, Ohio, is predicated upon the following terms and conditions.

a. The developer shall acquire all property from the abutting or affected property owners which are necessary for the full and complete development of the proposed street.

b. The developer also agrees to perform, at his sole expense, any and all work which is necessary for the protection of the abutting or affected property owners.

c. The developer shall also indemnify and hold the City of Cincinnati, Ohio, harmless from any and all claims which may be asserted against the City of Cincinnati, Ohio, resulting from the developers development of the proposed street.

10. Where the subdivider owns acreage abutting an existing street in which he desires to subdivide the frontage along the existing street, leaving the rear acreage for future development, the subdivider shall submit a preliminary plan, profile and cross sections of the future street extension from the dedicated street to the depth of the lots along the existing street.

11. The plat of subdivision shall indicate the necessary easement right on the lot on each side of the future street, indicating that these easement rights are reserved by the subdivider for the future street improvement.

12. Show location and label the size of all existing features and show or note any other data, including zoning, which may be pertinent for the City Engineer in reviewing or checking the plans.

13. All general notes shall be listed together in one area on the plan. Avoid duplicate notes. The first note shall read as follows;

All work represented in the approved construction documents shall be under the general supervision and inspection of the Engineering/Construction Management office (E/CM) of the City Engineer. All work shall follow a predetermined approved schedule.

14. If a subdivision is in a flood-prone area, any such proposal shall be reviewed to assure that:
(i) all such proposals are consistent with the need to minimize flood damage with the flood-prone area,
(ii) all public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage,
(iii) adequate drainage is provided to reduce exposure to flood hazards. All subdivision proposals greater than 50 lots or 5 acres (2.02 ha), whichever is the lesser, must include base flood (100-year flood) elevation data.

B. The standards and regulations applied to City of Cincinnati streets, subdivisions and land development shall be applied using the information in the following documents in order of appearance in this publication:

- Rules and Regulations of the City Planning Commission for the Subdivision of Land
- Rules and Regulations for Engineering Design of Streets for Private Subdivisions or Developments
- City of Cincinnati, Department of Public Works, Division of Engineering, Standard Drawings
- The State of Ohio, Department of Transportation, Construction and Material Specifications
- The City Supplement to the State of Ohio, Department of Transportation, Construction and Material Specifications
- Street Restoration Book - Rules and Regulations for Work in City Streets, Alleys, Sidewalks and Public Ways of the City of Cincinnati and the Manner in Which the Paving and Facilities are to be Restored
- Rules and Regulations Governing the Design, Construction, Maintenance, Operation and Use of Sanitary Sewers

## IV. SUBDIVISION IMPROVEMENT PLAN- STREET DESIGNS AND HIGHWAY DETAILS

A. Site Grading and earthwork (see Section XVII, Construction, - Paragraph "B").

B. Engineering Details

1. Plan sheet size shall be 24" wide by 36" long (0.61m x 0.91m).

2. Plans submitted on digital formal shall be compatible with that utilized by the City of Cincinnati.

3. The subdivision improvement plan shall show the stations, angles and all geometric information to all intersecting streets and turn-arounds. Bearings on street lines may be required.

4. All intersecting streets shall have a minimum curb radius of 25 feet. (7.62m)

5. Property corners at intersections shall generally be concentric with curb radii.

6. When a proposed residential street ends in a cul-de-sac, a ball-shaped turnaround shall be installed. The minimum curb radius will be 30 feet (9.14m). A tee turnaround may be permitted by the City Engineer, if lot layout and topographic features make ball construction difficult. If a tee is permitted, the paved area shall extend the full width of the right-of-way, less three (3) feet (0.91m) on either side. The side portions of the tee shall be a minimum of 18 feet (5.49m) wide. The radii of the tee shall be a minimum of 25 feet (7.62m). A tee turnaround shall be provided for industrial subdivisions. The paved area of an industrial tee shall extend a width of 104 feet (31.7m) with a right-of-way of 110 feet (33.53m). The side portions of the tee shall be a minimum of 36 feet (10.97m) wide. The radii of the tee shall be a minimum of 30 feet (9.14m).

7. The limits of the proposed pavement shall be clearly indicated and all stub streets shall be paved within the limits of the subdivision.

8. For the main and secondary thoroughfares, the minimum radius of curvature shall be five hundred (500) feet (152.4m) on the center line; for important local streets three hundred (300) feet (91.44m); for minor streets, one hundred and fifty feet (150) feet (45.72m).

9. All horizontal curves shall show the complete functions of said curves and each p.c. and p.t. shall be stationed.

10. Existing and proposed finished contours with intervals of not more than 5 feet (1.52m) must be shown. Elevations shall be based on sea-level datum.

11. Arrows will indicate the proposed final direction of storm water flow.

12. The subdivision improvement plan shall show the actual existing ground elevations along the center line of all proposed streets and sewers in the subdivision.

B. Profiles and Grades

1. All proposed grades shall be the curb grades of the respective streets and shall be indicated in complete detail in the profiles and referenced to the stationing shown on the plan.

2. The maximum grades shall not exceed six (6) per cent for main and secondary thoroughfares and important neighborhood streets, or twelve (12) per cent for minor streets. The minimum grades shall not be less than one (1) per cent.

3. All changes in grade shall be connected by vertical curves of minimum length equal to twenty-five (25) times the algebraic difference in rate of grade for main and secondary thoroughfares and important neighborhood streets and one-half (1/2) this minimum length for minor streets. The p.c. and p.t. of all vertical curves shall be stationed and elevations shall be shown at least every twenty-five (25) feet (7.62m) within the limits of the vertical curves.

C. Roadway Section.

1. Minimum Pavement Widths and Construction Details

a. Widths of right-of-way and pavements are regulated by Section 721-21 of the Cincinnati Municipal Code.

b. It is preferred that streets in a residential subdivision (single of two family zone) have a minimum pavement width between face of curbs of twenty-six (26') feet (7.92m) and a minimum pavement thickness of eight (8") inches (0.2m) of concrete. It is preferred that integral battered concrete curbs be specified on the roadway section. However, integral roll-type concrete curbs may be specified at the option of the developer. Should the developer prefer to use integral roll-type concrete curbs, the pavement width shall measure twenty-eight (28') feet (8.53m) from back to back of curbs. The minimum right of way for the above is 50 feet (8.53m) (Refer to H-1).

c. Streets in a residential subdivision (zoned & developed for apartments) must have integral battered concrete curbs specified on the roadway section and shall have a minimum right of way width of 60 feet (18.29m) and a minimum pavement width between face of curbs as follows:

1. No more than 99 dwelling units - 32 foot (9.75m) pavement.
2. 100 to 499 dwelling units - 36 foot (10.97m) pavement.
3. 500 or more dwelling units - 44 foot (13.41m) pavement.

d. Streets in an industrial subdivision shall have integral battered concrete curbs, a minimum width between face of curbs of 36 feet (10.97m) and a minimum pavement thickness of 10 inches (0.25m) of concrete.

e. Full depth asphaltic concrete pavements are permissible as an alternate to concrete. Such pavements shall be constructed as per the following standards:

1. Residential Streets
   a. Item 301 Bituminous Aggregate Base
      1. 5" (0.13m) Base Course
      2. 3" (0.08m) Intermediate Course
   b. Item 403 Asphalt Concrete
      1. 1" (0.03m) Leveling Course
   c. Item 404 Asphalt Concrete
      1. 1" (0.03m) Surface Course

2. Residential Streets - Alternate
   a. Item 305 Concrete Base
      1. 7" (0.18m) Portland Cement Concrete
   b. Item 404 Asphalt Concrete
      1. 2" (0.05m) Surface Course

3. Industrial Street
   a. Item 301 Bituminous Aggregate Base
      1. 5" (0.13m) Base Course
      2. 5" (0.13m) Intermediate Course
   b. Item 403 Asphalt Concrete
      1. 1" (0.03m) Leveling Course
   c. Item 404 Asphalt Concrete
      1. 1" (0.03m) Surface Course

4. Industrial Streets - Alternate
   a. Item 305 Concrete Base
      1. 9" (0.23m) Portland Cement Concrete
   b. Item 404 Asphalt Concrete
      1. 2" (0.05m) Surface Course

f. A tack coat of Item 407 shall be applied between base and surface courses.

g. Manhole castings constructed to temporary or final elevations and remaining above the temporary grade of the street shall be wedged with asphalt concrete to a diameter of eight feet (8') (2.44m). The asphalt wedge shall remain in place until final paving at which time it shall be removed.

h. The entire right-of-way of all streets, including stub streets, shall be graded to full width between street property lines.

D. Sidewalks

One-course, five (5) inch (0.13m) thick concrete sidewalks, four (4) feet (1.22m) in width, shall be constructed, as per ODOT specifications. IN ALL WALKWAYS AND ON BOTH SIDES OF ALL STREETS within the subdivision, all joints shall be tooled, not sawn. Sidewalks shall be located one (1) foot (0.3m) from the street property line. Exceptions to this requirement may be granted by the City Engineer, in the following circumstances:

1. Through Residential Streets and Cul-de-sac Streets - Where physical conditions dictate, the sidewalk may be omitted from one side only. Additionally, if property on one side of a cul-de-sac street is not developable, the sidewalk may be omitted on that side. Waivers of the "two sidewalk" requirement will be at the discretion of the City Engineer.

2. Industrial Subdivisions - Subdivisions with short, separate entranceways or "lead-in" streets shall have walks on both sides of such streets. Interior streets will be required to have a sidewalk on both sides, unless engineering conditions dictate otherwise.

3. Handicap ramps are required on all street corners, and other locations as necessary, and must be installed as per City of Cincinnati requirements.

E. Joints in Street Pavements.

Joints in street pavements shall be placed in accordance with the current State of Ohio Department of Highways Construction & Material Specifications & City of Cincinnati Supplement thereto; and as directed by the Engineer. Joints shall be coordinated with utility blockouts.

F. Connections to Existing Pavements.

A small detail shall be shown on the plan, giving the elevation of the existing pavements to which the proposed pavements within the subdivision shall connect. Engineering/Highway Design will have final approval of all details of the grades of the intersection(s) and cul-de-sac(s) of the streets as provided by the developer's engineer.

G. Intersection and Cul-de-Sac Grades

Details of intersections and cul-de-sacs grading layouts must be submitted to E/HD for approval, prior to construction.

H. Design of Utilities - General

All utilities shall be designed using the predetermined locations identified on the Typical Section drawing. The alignment for the utility design shall be as consistent as possible with the alignment of the roadway. This may require additional manholes to be added to the design. All utility designs shall be incorporated in the construction drawings prior to release of the permit. The location of all utility laterals shall be stamped on the new curb as it is being constructed, using an approved stamp system. The designations shall be:

S - Sanitary Lateral
ST - Storm Lateral
W - Water Lateral
UX - Utility Crossover

1. Proper utility placement requires a minimum right of way of 60 feet (18.29m). A 50 foot (15.24m) right-of-way is acceptable, with additional utility easements of ten (10) feet (3.05m) on either side.

2. Preferred location for gas, electric, cable and telephone service is in a Utility Eastment, adjacent to the right-of-way, in a "joint trench". Extra conduits, for future utility use will be required in all installations; the number required will be determined during the review process.

I. Street Lighting (See Section XI Traffic Engineering Procedures, paragraphs I-B and II-B).

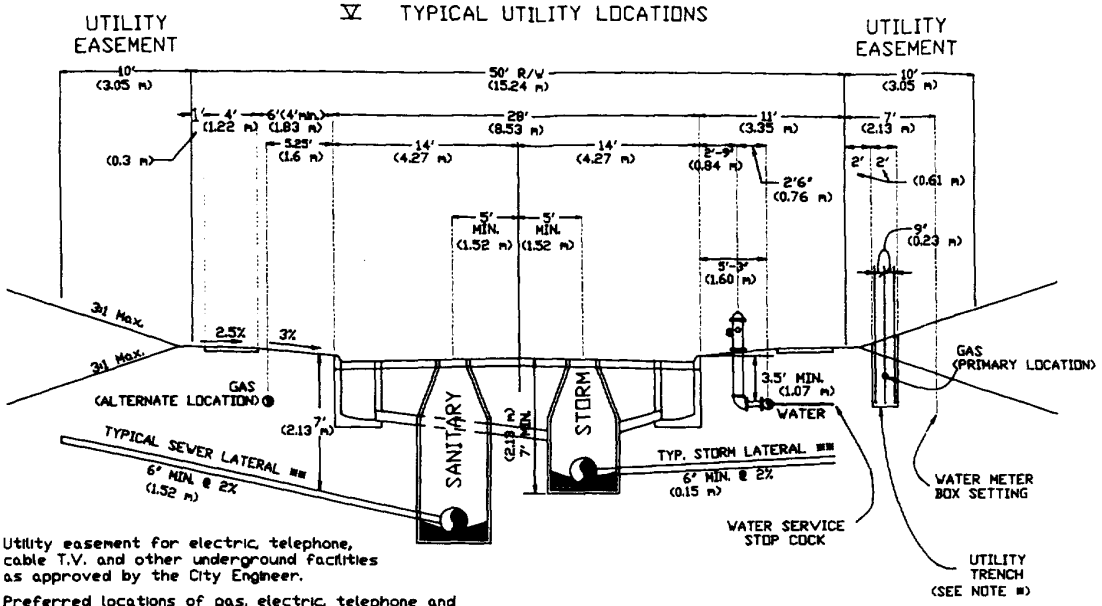
J. Street Trees

A landscaping plan showing locations, sizes and species of all proposed trees and any other foliage to be planted in the right-of-way must be included in the Approved Plan.

K. Property Line Marking

All lot lines shall be marked on the curb by a 2 (0.05m) inch sawcut at the top of the curb in direct alignment with the property line.

## V TYPICAL UTILITY LOCATIONS




Utility easement for electric, telephone, cable T.V. and other underground facilities as approved by the City Engineer.

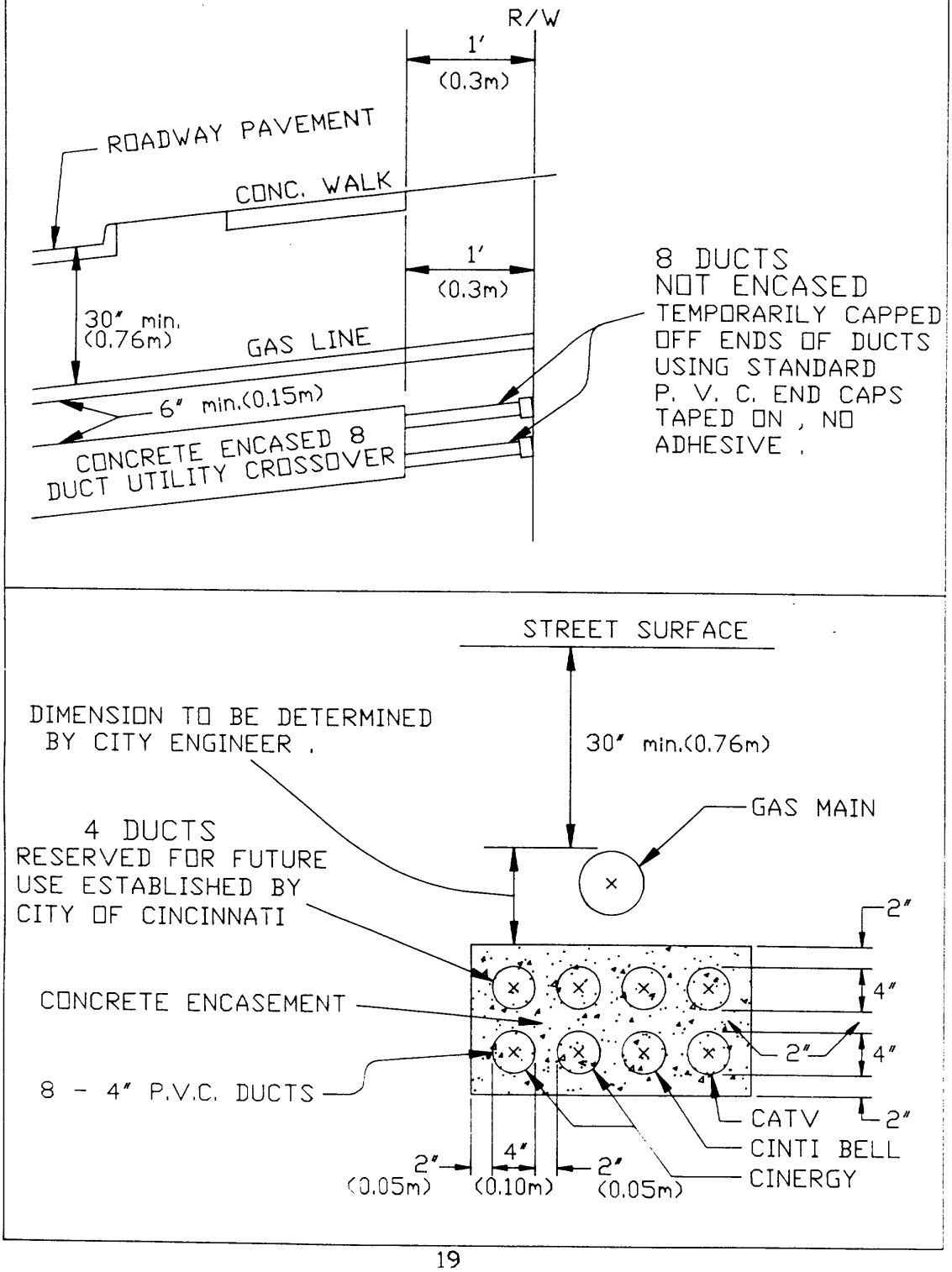
* Preferred locations of gas, electric, telephone and cable T.V. in trench as shown.

** Sewer and water service laterals to be extended to ten feet (10')(3.05 m) past R/W line and connect to main line not a manhole.

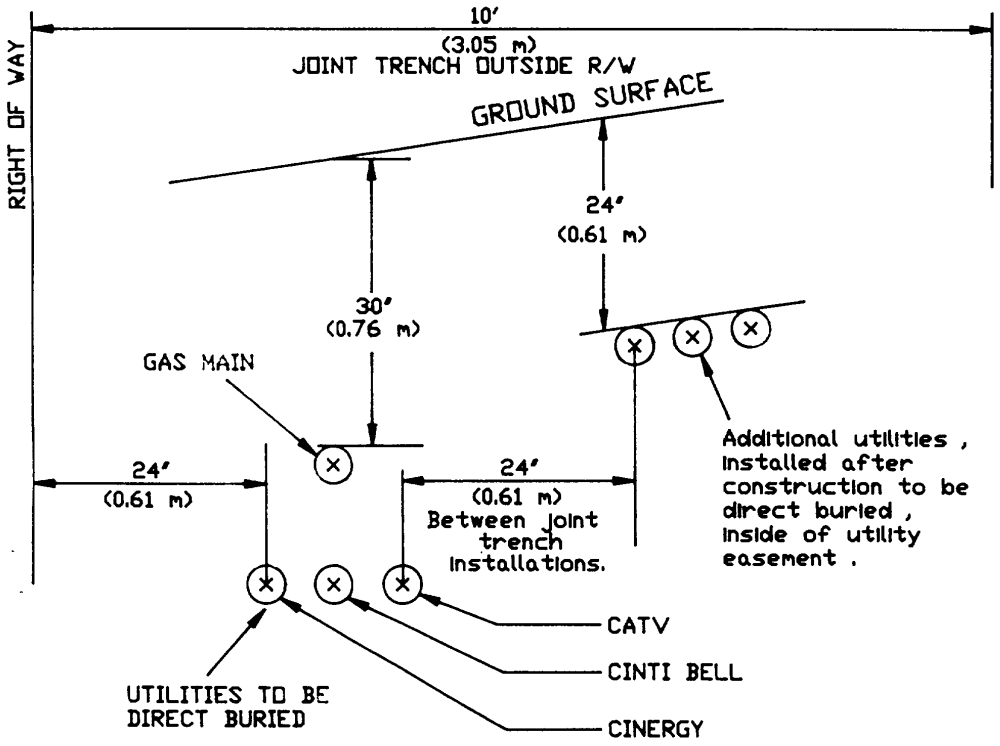
| UTILITY | MINIMUM COVER |
|---|---|
| GAS | 36" (0.91 m) |
| WATER | 42" (1.07 m) |
| ELECTRIC | 30" (0.76 m) |
| TELEPHONE | 30" (0.76 m) |
| CABLE T.V. | 30" (0.76 m) |
| SEWER LATERAL | 7' (2.13 m) |

Location of water meter box shall generally be seven feet (7')(2.3 m) beyond the R/W line. In special cases due to physical encumbrances the meter box may be located between five feet (5')(1.52 m) and ten feet (10')(3.05 m) from the property line as determined by the Water Works. In those cases where the normal seven feet (7')(2.13 m) dimension is exceeded the service branch shall be extended a minimum of three feet (3')(0.76 m) beyond the box in the original installation. The end of the water service branch shall be capped utilizing a flared copper to iron fitting and a brass plug. The branch shall be pressurized from main to plug.

# VI - UTILITY CROSSOVER DETAIL



# VII - JOINT TRENCH DETAIL



## VIII. SUBDIVISION IMPROVEMENT PLAN - SEWER DETAILS

A. GENERAL INSTRUCTIONS

1. In developing the subdivision, the engineer is advised to correlate the street layout with the natural drainage, and, wherever practicable, to adjust the grade of the street so as to avoid a pocket between blocks.

   Generally, this will minimize the length of sewer required, avoid the necessity for sewers in easements, excessively deep sewers, and produce the most economical sewerage plan.

2. The design of the sewer system for the subdivision shall be based on the highest density type of development permitted, for the area, under the Zoning Ordinance of the City of Cincinnati.

3. The use of combined sewers in new subdivisions is prohibited. The developer will provide storm sewers and storm water inlets to drain all the street intersections and to limit the flow of surface water in the gutters, before entering a sewer inlet, to approximately 250 feet (76.2m). Also, facilities must be provided to care for roofs, driveways, and yard drains, and the plat must carry a notation that all surface water drains will be connected to the storm sewer.

4. The subdivider shall be required to lay all sanitary sewer laterals to a maximum of ten (10') feet ((3.05m) beyond the property line before paving the streets.

B. Sanitary Sewers

1. All sanitary sewer systems must receive approval of the Ohio Environmental Protection Agency (OEPA). Plans will be submitted to OEPA through Metropolitan Sewer District, as a part of the review/approval process.

2. All sanitary sewers shall be designed and constructed in accordance with the Metropolitan Sewer Districts' Rules and Regulations, Standard Drawings, State of Ohio Construction and Material Specifications, and the City of Cincinnati Supplement to the State of Ohio Specifications.

3. The subdivider shall convey to the Board of County Commissioners easements to cover the construction and maintenance, repair or replacement of sanitary and/or combined sewer lines outside of the proposed streets within the subdivision. For the convenience of the subdivider, the following form of restriction is suggested for use on the final plat of subdivision:

a. No structure of any kind which can interfere with access to said public sewer shall be placed in or upon a permanent sewer easement, excepting items such as recreational surfaces, paved areas for parking lots, driveways, or other surfaces used for ingress and egress, plants, trees, shrubbery, fences, landscaping or other similar items, being natural or artificial.

Any of the aforesaid surfaces, paved areas, plants, trees, shrubbery, fences, landscaping or other similar items which may be placed upon said permanent easement shall be so placed at the sole expense of the property owner, and the grantees or assigns of any permanent easement henceforth shall not be responsible to any present owners of the property nor to their heirs, executors, administrators or assigns, for the condition, damage to or replacement of any such aforesaid items, or any other items placed upon the easement, resulting from the existence or use of the said permanent sewer easement by the grantees or assigns.

Any structure constructed on said property in which said permanent sewer easement exists shall be kept not less than three (3) feet (0.91m) outside the permanent sewer easement line nearest the site of the proposed structure.

Any deviation from the aforesaid restrictions shall be petitioned by written request to the grantees or their assigns. Each such request shall be considered on an individual basis with approval not to be unreasonably withheld.

4. Sanitary sewer easements are also for the use and benefit of adjacent lots for the purpose of installation, operation, maintenance, repair or replacement of sanitary sewer house service connections.

5. Sewage Lift Stations, where permitted, shall be in accord with the "Rules and Regulations Governing the Maintenance, Operation and Use of Sanitary and Combined Sewers in The Metropolitan Sewer District of Greater Cincinnati, Hamilton County, Ohio", or amendments thereto.

6. Sanitary Sewer Specifications

a. Design and Construction
All sanitary sewers shall be designed and constructed in accordance with the Metropolitan Sewer District's Rules and Regulations, Standard Drawings, State of Ohio Construction and Material Specifications and the City of Cincinnati

Supplement to the State of Ohio Specifications latest editions.

b. Size of Sewer
The size of the sanitary sewer shall be determined as per Metropolitan Sewer District's Rules and Regulations. The minimum size of the sewer, except building laterals, shall be eight (8) inches (0.20m) in diameter.

c. Depth
The depth of the sewer shall be such that any floor level being served by the building sewer shall be a minimum of thirty-six (36) inches (0.91m) above the crown of the receiving sewer. The building lateral shall be laid at a grade of two (2) percent from the building to the public or private sewer; except, the director may authorize the grade to be as little as one (1) percent if he determines such to be desirable or necessary.

d. Manholes
Manholes shall be placed five (5) feet (1.52m) off the centerline of proposed streets; at all intersections of two or more sewers; at all changes in size of pipe, alignment and grade; at the head end of the system and at intermediate intervals as required for maintenance. Maximum spacing is determined by the size of the sewer.

8. Special Instructions
Branch sewer connections, limitations of angular change in alignment of a manhole, radius of curve for sewers 30 inches (0.76m) in diameter and larger (minimum radius 10 diameters), increaser and reduction chambers, reduction in size of pipe due to steeper grade, changes from a flat to a steeper grade, and vice versa, drop manholes and base elbow connections, etc., shall be designed on the basis of fundamental hydraulic principles and recognized good engineering practice.

9. House lateral connections to a manhole are prohibited, except in some special cases, where special authorization must be given. When an exception is made for good cause, the connection must be made at the bench wall level and the bench wall channelled to direct the flow to the outlet pipe of the manhole.

10. Similarly, where a branch sewer, carrying sewage, connects to a manhole, the branch line must be connected in such a manner that its crown elevation at the centerline of the manhole matches the crown elevation of the outlet pipe. However, if the main sewer is deep, with respect to the branch sewer, the branch sewer connection may be made with a drop connection.

C. Storm Sewers

1. The subdivider shall convey to the City of Cincinnati easements to cover construction and maintenance, repair or replacement of storm sewer lines outside of the proposed streets within the subdivision. For the convenience of the subdivider, the following form of restrictions is suggested for use on the final plat of subdivision:

   a. "No improvements of any kind shall be made on said easement which will interfere with access to the sewer; and the City of Cincinnati shall not be responsible to any present or future owners of said lot for any damage done on said easement to sod, shrubbery, trees or to other improvements, either natural or artificial, by reason of entering for the purpose of constructing, maintaining, repairing or replacing the sewer."

   b. Any building to be constructed on the lot or parcel of real estate, in which said easement exists, shall be kept not less than three (3) feet (0.91m) from the easement line nearest the site of the proposed structure."

2. Basic Design Data

   a. Surface Run-Off
   To determine the quantity of surface run-off for which capacity should be provided, use the "Rational Method".

   b. Intensity of Precipitation
   As per Storm Water Management Utility's current Rules and Regulations.

   c. Inlet Time
   At the head end of the system, the inlet time of concentration shall be no less than 10 minutes, depending upon the size of the area and factors affecting rapid runoff.

   d. Impervious or Run-off Coefficient
   Compute a weighted value of the increment areas, using 0.9 for roof areas and hard-surface paved areas, 0.7 for gravel driveways, 0.3 for unpaved areas, yards and lawns. For other surfaces, see the current Storm Water Management Utility's Rules and Regulations.

e. Size

The minimum storm sewer size shall be 12" (0.30m) inches. All storm sewers shall be designed to pass a 10 year storm and the hydraulic gradient check for the 25-year storm as per current SMU's Rules and Regulations. Manning's "n" factors for various materials are as follows:

| Material | Manning "n" |
|---|---|
| Concrete, vitrified clay or bituminous lined corrugated metal | .013 |
| Concrete (Monolithic) | |
| Smooth Forms | .013 |
| Rough Forms | .017 |
| Corrugated metal pipe (1/2 in.x 2-3/4 in. [0.013m x 0.0699m] corrugation) | |
| Plain | .024 |
| Paved Invert | .022 |

f. Depth

1. Storm sewers shall be of sufficient depth for house laterals to meet the regulations as set forth in Item"house Drains" of the City of Cincinnati Supplement to the State of Ohio Department of Highways Construction & Materials Specification.

2. Minimum depth for storm sewers shall be planned to provide clearance for water and gas mains and to permit inlet leads to be laid on not less than 2% slope, with the invert of the inlet pipe at the manhole no lower than the top of the bench wall, in accordance with Standard Drawing Acc. No. 49000 and 49001.

g. Manholes

1. Manholes shall be placed at intersections and termini of sewers; at all changes in size, alignment and slope of sewer, in pipe sizes under 30 inch diameter; at or near conversion chambers, junction chambers and curves on sewers 30-inch in diameter or larger; at points where inlets are to be connected and at intermediate intervals as required for maintenance.

2. Center line of sewer shall be placed five (5) feet off center line of proposed street.

h. Street Inlet Location. Spacing and Type.

1. Locate inlets on the upstream side of cross walks and driveways; at all pockets in the street and where a steep street grade changes to a flatter one, and at appropriate intervals consistent with topography and steepness of street surface and as determined by inlet spacing calculations in accordance with SMU Rules and Regulations.

2. Use of combination inlets, Accession No. 49016, is recommended for most street locations.

3. Wingwall and ditch type inlets shall be specified where required to drain surface run-off in water courses and ditches.

4. Inlets 5′ (1.52m) clear of driveways.

i. Storm Water Detention

1. Storm water detention may be required by SMU or the Metropolitan Sewer District for all subdivisions. MSD will require storm water detention on all sewers tributary to a combined sewer.

2. Detention details shall be shown on the improvement plans and detailed calculations shall be submitted to the City Stormwater Engineer. Construction of the detention basin whether public or private shall be included as part of the bond amount.

j. Erosion Control

1. An erosion control plan shall be prepared for all subdivisions in accordance with current SWMU Rules and Regulations.

2. The erosion control plan shall be implemented in connection with the beginning of earthwork to minimize erosion and sedimentation impact on downstream properties amd upon the receiving sewers.

3. All disturbed areas where additional work is not scheduled for forty-five (45) days shall be covered with temporary revegetation. All critical locations shall be revegetated within three (3) weeks.

k. Drainage

1. The improvement plans shall indicate the location of all downspout connections. Where no storm sewer is accessible, roof water must be discharged to the gutter, in accordance with the Highway Standard Drawing Accession No. 20622. Where a gutter connection is not possible and approved by the City Stormwater Engineer, the roof water may be discharged to a drainage easement. The drainage easement shall be shown on the improvement plans and record plat, as per SMU's current Rules and Regulations.

## IX. SUBDIVISION IMPROVEMENT PLAN - WATER MAIN DETAILS - INSPECTION CHARGES

A. A proposed water main system within a new subdivision shall be designed by the developer's engineers. The proposed water main system must be submitted to Cincinnati Water Works (CWW) in accordance with Chapter 401 of the Cincinnati Municipal Code and CWW Standard Drawings, for review and approval, initiated with a preliminary application for service and water concept plan.

B. All materials used and the installation of those materials in the line shall be in accordance with City of Cincinnati Supplement to State of Ohio, Department of Highways Construction & Material Specifications. Installation shall be in accordance with Water Works Standard Drawings and practices of the department.

C. Fire hydrants shall be placed at approximately 400 (121.92m) foot intervals, or less if required by the Fire Department, but not less than 300 (91.44m) intervals.

D. In general, there shall be four (4) valves at each cross intersection and three (3) control valves at each tee-intersection. All cross connections and water service branches must have valves, per CWW requirements.

E. Main line control valves shall be housed in precast concrete chambers when they are installed in the paved street area. In other than paved areas, main line valves shall be housed in valve boxes, except where chambers are specified by the Water Works Engineer or are necessary for the operation of the system. Fire hydrant leads shall be constructed so that the valves are behind the curb and housed in a valve box or as shownon the CWW approved water main plans..

F. Water main loops are required in some instances and encouraged where feasible beneficial. Two sources of water are required for developments having 90 lots or more or 150 apartment/condominium units or more and as determined by CWW.

G. The size of water mains to be installed in the new system will be determined by the Water Works Department.

H. Water service branches from the water mains to the property line may be installed by developers' contractor, if 2" (0.05m) diameter or smaller. Branches shall be of CWW Type K certified copper pipe and certified brass fittings and installed in accordance with CWW revised regulations. A developer's bond must be posted, as described in Section 401-13 of the Cincinnati Municipal Code. Branches larger than 2" (0.05m) in diameter shall be installed by Water Works after processing branch applications and obtaining street permits. Where possible, branches should be installed within 2 feet (0.61m) of the driveway, to eliminate street tree conflicts.

I. Water mains in new subdivision streets shall be located 5.25 feet (0.13m) from back of curb (to CL of main). Fire hydrants will be 2.75 feet (0.84m) behind the curb. Exceptions to the above will be made on an individual basis, by petition to Water Works.

J. Generally, the mains shall be installed within the north or east sidewalk space.

K. Water service branches must be installed in accordance with Section 401-13, 31 and 35 of the Cincinnati Municipal Code and other applicable CWW regulations.

L. The contractor installing the water main and its appurtenances shall be billed at the current rate established by the Water Works for inspection. No water main work is to be done without proper notification and inspection. To obtain inspection, the contractor shall transmit to the Water Works Engineering System Facilities a "Letter of Intent" including the contractor's bond. This letter shall state the starting date, CWW's job number/WSLICIN number, the estimated number of construction days, a description of the location and limits of the mains to be laid.

M. Some form of remote metering of water service is now available from CWW; consultation with them should be made prior to finalizing water service plans. Water meters and other service equipment must be installed outside of the right-of-way in accordance with CWW regulations/requirements.

N. The developer's engineer will be billed for all applicable water main plan review charges, in accordance with Section 401-13.

O. The developer's contractor will be billed for all applicable construction inspection charges, material inspections and disinfection and testing fees, in accordance with Section 401-13.

## X SUBDIVISION IMPROVEMENT PLAN - PRIVATE UTILITIES

1. Gas mains shall be designed by Cineregy (CG&E Co.). The location shall be outside the street right-of-way within the utility easements and within the utility cross-overs.

2. Consistent with the policy relating to water main location in new subdivision streets, as an alternative to paragraph one, the following policy is hereby established in regard to the lateral positioning of longitudinal gas mains in new Subdivision streets:

   A. In the installation of gas mains in new Subdivision streets Cinergy (CG&E Co.) will be permitted to lay the main in the street sidewalk space, except in such instances wherein the City Engineer decides that unusual local conditions indicate the impracticability of such location, in which cases a location under the street pavement will be fixed by the City Engineer.

   B. The gas mains shall be located with the south or west sidewalk space.

   C. Gas mains laid in the sidewalk space shall be located 5.25 feet from back of curb (to c.l. of main).

   D. Inclusion of the gas main in a "joint utility trench" is permissible, if so desired by the developer.

3. Electric, communications and cable TV services shall be installed underground. Underground installation shall be by means of a "joint utility trench" within a ten foot (10') utility easement immediately behind the right-of-way (see joint trench detail, Section VII, Page 19.)

4. Transformers and other ground mounted equipment shall be installed at lot corners behind the right-of-way.

5. All street lighting, public or private, must have approval of (and be coordinated with) Traffic Engineering, prior to approval of improvement plan (refer to Section XI, Traffic Engineering Procedures, Paragraph II-B).

## XI. TRAFFIC ENGINEERING PROCEDURES

**City of Cincinnati**
**Department of Public Works**
**Division of Traffic Engineering**
**Standard Operating Procedure**

**Rules and procedures for Traffic Control Devices and Street Lights on New Subdivisions**

The following requirements and procedures shall be followed retarding traffic control devices and street lighting on new subdivision which are to either remain private or be dedicated to the City. Any exceptions to the following shall be based upon engineering judgment and have the approval of the City Traffic Engineer.

I. Private Streets to Remain Private

A. Signing and Pavement Markings

It is the responsibility of the developer to install and maintain all signing and pavement markings on the private street, all of which should conform to the Manual of Uniform Traffic Control Devices (MUTCD). The City reserves the right to install and maintain signing and pavement markings on a private street's approach to a public street once the private street is open to the traffic.

All private streets which intersect a public street shall have street name signs, in accordance with City standards, installed at the intersection and shall include a yellow tab designating the street as being private.

B. Street Lighting

If street lighting is desired by the developer, it shall be the responsibility of the developer to install and maintain a lighting system on the private street. The Developer or his agent(s) are responsible for tagging or identifying the poles as privately owned and maintained.

C. Traffic Signals

For traffic signals controlling private streets, the developer is responsible for the following.

1. If the new signal is installed at the intersection of only private streets, the developer is responsible for the signal's installation (labor and materials), liability and ongoing maintenance and energy costs, none of which will be performed or assumed by the City. The new signal should conform to the MUTCD.

2. If the new signal will be controlling at least one approach of a public street, advance City approval of equipment used and signal design employed is required. If approval is given, the developer must enter into a formal agreement with the City agreeing to pay for all, or a portion of, the signal's installation (all or a portion of which may be performed by City forces as required by the City) and all, or a portion of the yearly energy and maintenance costs for the signal's operation. The portion to be paid by the developer shall be determined by the City based upon the prevailing traffic conditions and the number of, and benefit to, the private approaches served by the signal. The City will perform all required maintenance on the signal with the costs for such maintenance payable by the developer as detailed in the agreement.

II. Streets to be Dedicated to the City

A. Signing and Pavement Markings

At the City's option, the developer shall have all required signing and pavement markings installed by the developer's contractor as part of the roadway plans, subject to review and approval by the City, or the City will install all required signing and pavement markings, by City forces, at the developer's expense. If City forces are used to perform this work, the developer is required to submit a certified check, payable to the Treasurer, City of Cincinnati, for an amount determined by the City, which will be used to pay for this work. If the actual cost of the work by City forces is less than the amount deposited by the developer, the remainder will be returned. If the actual cost of the work exceeds the pre-deposit, the developer will be billed for the difference.

If the signing and pavement markings are installed by the developer's contractor, performance and cost for all maintenance of this material shall be the responsibility of the developer until the street has been accepted for dedication by the City. Once accepted, the City assumes all maintenance on the equipment except for defects in materials and workmanship, which shall be the responsibility of the developer until the warranty period expires.

If the City installs the signing and pavement markings, the City accepts all responsibility for defects in materials and workmanship, upon installation. The developer shall bear the costs for all maintenance of this equipment, except for the above quality control items, until the street has been accepted for dedication.

B. Street Lighting

Street lighting is required for dedication of any street which will become part of the Official Through Street System in Cincinnati. Otherwise, street lighting is at the discretion of the developer. All street lighting details must be shown in the Subdivision Improvement Plan.

If the developer options for no street lighting on a street that will not become a part of the Official Through Street System, the developer is required to provide and install, at his cost, underground conduit, of a type and size specified by the City, along both sides of the street, for possible future street lighting, before the street will be accepted for dedication.

If street lighting is required by the City or desired by the developer, standard cobra head street lighting, mounted on wood CG&E poles, with underground wiring, will be provided along the new street at no cost to the developer. Installation and turn-on of the new street lights will be performed once the street has been accepted for dedication. All costs for maintenance of this system after dedication, performed by the City or the CG&E Co., will be borne by the City.

If the developer wishes to have the above lighting system installed and in operation, prior to dedication, the developer may enter into an agreement with the CG&E Co. for the payment of installation, maintenance and energy costs up to the date of dedication acceptance, at which time the City will take over the charges.

If the developer wishes to install a lighting system different from the above, the developer may only choose from a list of systems acceptable to the Division of Traffic Engineerinf. Additionally, options on installation and payment for this non-standard system, with prior approval from the City, are as follows:

1. The developer or subsequent abutting property owners formally agree to pay an assessed amount, determined by the City, every 3 years for the labor and material costs for installation by City forces and continual energy and maintenance costs over and above that which the City would normally provide for the street. The new lighting system will not be installed until the street has been accepted for dedication by the City. All maintenance after dedication will be performed by City forces including defects in materials and workmanship.

If the developer wishes to have the street lighting system installed and operational prior to the acceptance of dedication by the City, the developer can contract with CG&E Co. for the installation and make payments for operating and amortized installation costs until an assessment program is established and the street is dedicated and accepted. Responsibility for petitions and other groundwork for the assessment program will be the responsibility of the developer. At the time the assessment becomes operative, the City will take responsibility for the lighting system from the developer.

2. The developer has an approved lighting system installed by his contractor, as a part of the roadway plans, at the developer's expense. If, upon acceptance of dedication of the street by the City and determination that the new lighting system meets all City requirements, the developer turns ownership of the lighting system over to the City, no assessment will be required. All maintenance and energy charges before dedication will be the responsibility of the developer. All maintenance and energy charges for the new lighting system after dedication will be the responsibility of the developer until the warranty period expires.

3. For streets which are intended to be dedicated to the City but will not become part of the Official Through Street System, the developer may elect to enter into a contract with the CG&E Co. for the installation of an underground fed boulevard lighting system. CG&E Co. will charge a monthly rate to the developer which include operating costs plus the installation costs, amortized over the life of the system. The developer or a homeowners association will be responsible for these payments according to whatever arrangement on which they agree.

C. Traffic Signals

Prior City approval is required for all new traffic signal installations on currently dedicated streets or streets that will be dedicated to the City. If approval is given, the developer shall be required to pay for all, or a portion, of the signal's installation (all, or a portion, of which may be performed by City forces as required by the City). The portion to be paid by the developer shall be determined by the City based upon the prevailing traffic conditions and the number of, and benefits to, private approaches served by the new signal. The developer will be responsible for the cost and performance of all maintenance to the equipment installed by the contractor prior to dedication or turn-on, whichever is

first. All work performed by private contractors must meet City specifications and be inspected by the City. All equipment must have prior City approval before purchase. The City will perform all maintenance on equipment installed by City forces prior to dedication with all costs, except for defects in materials and workmanship, borne by the developer.

In addition to the above, if the new signal is to be turned on prior to the City accepting dedication, or if the signal will be controlling at least one private approach after dedication, the developer is required to enter into a formal agreement with the City agreeing to pay for all, or a portion of, the signal's yearly energy and maintenance costs. The portion to be paid by the developer shall be determined by the City based upon the prevailing traffic conditions and the number of, and benefits to, the private approaches served by the signal. All maintenance to the signal will be performed by City forces once the signal has been turned on or the street has been accepted for dedication, whichever is first, with the conditions on financial responsibilities cited above. All equipment installed by the developer will become the property of the City and the City shall be the sole entity responsible for determining when the signal can be turned on and the implementation of the timing or programming of the traffic signal.

The City may provide a list of requirements to the contractor/developer which shall be met before turn-on of the signal will be approved.

Once the street has been accepted for dedication by the City, if the new signal does not control any private approaches, the City will be responsible for the performance and cost of all maintenance and workmanship supplied by the developer's contractor which shall be borne by the developer until the warranty period expires.

## XII STREET SIGNAGE

A. Signs for traffic control shall be shown on the subdivision improvement drawings on the street lighting and landscaping plan.

B. Subdivision identification signs or monuments shall be shown on the street lighting and landscaping plan. All details as to location, installtion and composition shall be shown.

## XIII STREET TREES AND LANDSCAPING

A. Street Trees

1. In 1988, the Urban Forestry Board advised Public Works and City Council that it would be wise for the City to require that street trees to planted along each newly constructed street as one of the conditions necessary for the street to be accepted and dedicated as a public right-of-way. City Council, the City Planning Department and the Public Works Department all concurred with this recommendation.

   In addition to constructing to City standards all improvements discussed in this book, street trees at least 2 inches (0.05m) in caliper must be planted. The number, size, species and location of the street trees must be shown on a landscaping drawing and incorporated as part of the approved site improvement plan for the subdivision. Preliminary landscaping plans are required. A complete set of preliminary site improvement drawings will be sent to the Urban Forest Management Section of the Cincinnati Park Board for their review and approval. The value of the approved trees shall be included in any completion or warranty bond required by the City. Any trees that have not been provided shall be tallied during the final inspection.

   To facilitate the planting of trees, it is suggested that the tree lawn (grass trip between curb and walk) be made as wide as possible and no less than four (4) feet (1.22m) wide. Trees must be planted in accordance with the planting details for street trees listed in the City of Cincinnati, Department of Public Works, Division of Engineering Street Restoration Book. It is recommended that utility services or crossovers be designed so that their location is under or near the driveways. Where possible, it is suggested that utility services be consolidated in order to provide the maximum area for street and yard tree planting.

   Developers are encouraged to work with Forestry during the planning stages for their streets, to learn more about the suggested number, size, species and location of trees to be planted. The Developer may, as an option, pay Forestry in advance for the approved number of trees scheduled to be planted. When payment is made, the developer's obligation for trees has been fulfilled. During the appropriate planting season following completion of all other street construction work and the Engineering Division final inspection, Forestry will have its landscape contractor supply, plant and guarantee for one year all of the street trees. This relieves the developer of quite a bit of work and allows Forestry to follow the trees through the year's guarantee. It also helps to speed the dedication process.

2. General landscaping within the subdivision shall be permitted on private property only. Private landscaping within the right-of-way limits is not permitted. General landscaping should be shown on the street lighting and landscaping plan.

## XIV POSTAL SERVICE

The two available options for mail box installation are Rural and Cluster. Rural mail boxes are individual, pole mounted boxes at the curb. Cluster boxes are multi-box units in a central location, used for both drop-off and receiving mail. The subdivision developer has the responsibility of coordinating the mail box type with the local Postmaster.

Proposed locations of Cluster Mail Box location should be shown on the street lighting and landscaping plan. Design of the cluster mail box should conform to Standard Drawing Accession No. 22688.

The City prefers rural style mail facilities and reserves the right to reject cluster mail facilities.

## XV ADMINISTRATIVE REGULATION #62

A. Administrative Regulation #62 requires that all property to be accepted by the City as public must be certified to be environmentally safe. An environmental investigative company, approved by the City of Cincinnati, must examine the proposed public property and submit a report to the City and to CWW as to their findings regarding either the presence or lack of environmentally hazardous material.

B. Investigation of property to be dedicated should take place as early as possible in the dedication process; possibly prior to first submission of plans and must include a full Phase I level audit.

## XVI PERMITS AND DEPOSITS

A. After the subdivision improvement plan has been approved and the subdivider has been given authority to proceed with the improvement by the City Planning Commission, the subdivider may then make application to improve the street or streets and sewers within his subdivision privately, as per Item I-F. At the time of making the application, the subdivider must furnish Engineering/Highway Design Section with twenty-one (21) sets of prints of the approved plan.

B. The Permit Application shall include the owner/developers' name and mailing address. The developers' contractor shall sign the Permit Application, and provide his mailing address. An estimated cost of inspection services shall be included in the application, as provided by the Principal Public Works Construction Engineer.

C. GEOTECHNICAL REQUIREMENTS

1. A Geotechnical Engineering and Materials Testing company, approved by the City of Cincinnati, must be employed by the developer to provide appropriate geotechnical engineering and materials testing services. The geotechnical firm must agree to the following provisions of the City's current agreements for Geotechnical Engineering Services and Related Material - Testing and Inspection and Related Engineering Services:

Section 1. Scope of Services
Section 4. Subcontracting
Section 5. Assignability
Section 6. Termination
Section 7. Compliance With Laws and Policies
Section 8. Hold Harmless
Section 9. Reports, Information and Audits
Section 10. Conflict of Interest
Section 11. Consultant Insurance
Section 12. Severability
Exhibit A Scope of Services

2. A copy of the contract between the developer and the Geotechnical Engineering and Materials Testing firm must be provided to the Principal Public Works Construction Engineer, Engineering/Construction Management Section of the Division of Engineering, Department of Public Works, prior to the issuance of permits.

3. The geotechnical firm is required to have an Ohio registered professional engineer who is on the City of Cincinnati list of recognized geotechnical engineers (maintained by the Cincinnati section of American Society of Civil Engineers) to perform or oversee all geotechnical engineering and testing services, and review all reports.

4. Where underground utilities are installed in the right-of-way, or water mains are installed in easements, as allowed under Section 401-19 of the Cincinnati Municipal Code, the geotechnical engineer must perform sufficient investigations, analyses, inspections, and field and laboratory testing to establish that:

   a. The excavation walls will be stable
   b. The excavation will not result in landsliding.
   c. The soils surrounding the utility will not move vertically or laterally to a degree which will damage the utility over the planned life of the utility.
   d. Water mains will be installed to comply with Water Works Standard Drawing 105-7.
   e. The backfill and bedding are properly placed and compacted.
   f. Corrosion suitability of existing soils.

5. The results of the geotechnical investigations, analyses, investigations, and tests will be submitted in report form, prior to utility construction, for items 1 through 4. The results of field tests and inspections under item five will be completed and submitted in report form in a timely manner, and discussed with supervising personnel. Copies of the reports should be provided to CWW and the project Engineer.

6. As an alternate, the developer may deposit funds with the City to pay for the services of a City contracted geotechnical engineering and materials testing company. However, ultimately the developer is responsible for testing required for all work performed within the subdivision improvement area, as defined by the approved plan. If the City contracted for testing company option is selected, the testing monies must be provided prior to issuance of the permit. Failure to provide testing arrangements will prevent the City from accepting any work performed or materials supplied.

Regardless of the testing procedure selected, the developer remains responsible for provision of a geotechnical contract prior to issuance of permit. All work and materials must be to City of Cincinnati and Ohio Department of Transportation standards.

D. Upon application by the owner/developer for the permit to privately construct the subdivision, and during the period of processing the application for City Administration signatures, the owner/developer may proceed with application for all other necessary permits.

E. The Accounts and Records Section of the Engineering Division will maintain an accurate daily running account of the status of each inspection account, based upon information supplied daily by the Construction Section. If, by chance, the amount in the fund to defray the cost of Public Works Inspection decreases to the sum of $1000, on large projects, or $300, on small jobs, such as private sewer extensions, the Accounts and Records Section will contact the Principal Public Works Construction Engineer to determine if the money on hand is sufficient to complete the project. If it is not, Engineering/Construction Management Section will notify the Contractor, by form letter, to make an additional deposit within 6 days in the case of small projects or 10 days in the case of large projects.

1. Additional deposits shall be for the **full amount** of the Public Works Inspection cost as estimated by the Principal Public Works Construction Engineer to complete the project.

F. If, after notification in writing, the contractor or developer fails to deposit the required sum within the stipulated time limit, the City will withdraw the Public Works Inspector or Inspectors from the project and no further work will be accepted, insofar as the City is concerned, until such time as additional inspection funds are deposited. However, if for some reason or other no work is being performed on the project, the Principal Public Works Construction Engineer may, at his discretion, extend the time limit. If the time limit is extended, the Construction Engineer will notify the Accounts and Records Section of such extension of time.

G. The Contractor and developers are hereby cautioned that any work requiring inspection which is performed without proper inspection, **WILL NOT BE ACCEPTED BY THE CITY**.

H. It should be clearly understood that the amount deposited is an estimated amount only and are deposited in a special fund known as the "FUND FOR INSPECTION OF STREETS AND SEWERS PRIVATELY CONSTRUCTED." Bi-Weekly payroll vouchers are drawn against the specific project fund based on the actual hours the inspector or inspectors were required on the specific project.

I. If an E/CM Supervisor is required to spend two hours or more in any one day on a single project, the supervisor's time will also be charged, at the current rate, to the Inspection Fund for that project.

J. The originally estimated amount of deposit may or may not be adequate to defray the cost of inspection. The final cost of such service will be determined by the actual bi-weekly charges against the specific fund as explained in above.

## XVII CONSTRUCTION

A. General Requirements

1. The construction of private projects shall be governed by the State of Ohio Department of Highways Construction & Material Specifications and City of Cincinnati Supplement thereto and all subsequent revisions thereto. The general requirements of specific permits other than the subdivision permit will apply in addition to the above mentioned specifications.

2. No construction shall begin until the subdivision improvement plan has been approved, all permits have been issued, all deposits have been made and a preconstruction meeting has been held; consisting of all involved parties.

3. All items of work represented by the approved subdivision improvement documents shall be under the supervision of, and inspected by, the Engineering/Construction Management (E/CM) office of the City Engineer, with the exception of the installation of the underground facilities. Inspection of the underground facilities will be made by the intended owner of each facility under the general supervision of the E/CM office. Permission for any deviation from the general specifications, subdivision regulations or approved plan must be obtained in writing from the E/CM office.

4. All sewers, water mains, gas mains and utility conduits (where such service is proposed), including the necessary lateral connections or branches, shall be installed prior to installation of the street pavement.

5. The Contractor for the subdivider is required to notify the Engineering/Construction Management office of the Engineering Division as to the date on which the work will start and when a City Inspector will be required. It is necessary that the contractor give the Engineering/Construction Management office AT LEAST 48 hours notice in each instance where an inspector is to be provided, except when an inspector will be needed on a Monday, in which case the notification must be received by the Engineering/Construction Management Section on the preceding Friday.

6. The contractor is advised to carefully schedule the work. The minimum time charged for each inspection will be one (1) hour during weekdays and two (2) hours on Saturday or Sunday. The minimum time charged for water works inspection service is four (4) hours. If work is canceled without notifying the inspection office, the minimum time will be charged at twice the normal rate. If work is canceled the same day of the scheduled inspection, the minimum time will be charged at the

normal rate. If notification of cancellations of work is given at least twenty four (24) hours in advance, there will be no charge for inspection,. Any work performed without proper inspection will not be accepted by the City of Cincinnati.

7. Inspection on private improvements will extend to any and all parts of the work done under the permit and will be on parity with that on Public Works Contracts.

8. Notification for inspection by other inspection agencies shall be done in the same manner as required for the E/CM office, unless other arrangements have been previously made.

9. Upon substantial completion of work, as determined by each facility inspection agency, a list of remaining or defective work shall be given to the developer, with copies to the contractor and E/CM.

10. Upon substantial completion of all the work represented by the final subdivision improvision documents, a complete list of all remaining and/or defective work will be prepared and sent to the developer with a copy sent to the contractor and all other inspection agencies.

11. Any defects noted by the Engineering/Construction Management Office shall be corrected before the contractor leaves the project. No refund of balances due the Subdivider from the Inspection Fund will be made until the defects are corrected.

B. Embankment Construction (Per ODOT 203 except as follows)

The following requirements shall apply to all earthwork construction greater than 200 Cubic Yards (152.91$m^3$) in volume and/or 2 feet in depth, made over entire project area and not limited to that falling within the Right-of-Way.

1. Embankment Plan:
The contractor shall present, at the time of application for permit, an <u>embankment construction plan</u> containing as a minimum the following elements:

   a. Topographic survey indicating original and proposed finish contours.

   b. Identification of proposed borrow areas.

   c. Soil classification, laboratory analysis and moisture/density curves for all materials proposed to be placed in the embankment.

   d. Description of Methods of Construction Proposed:
      1. Equipment to be used
      2. Moisture control methods to be employed

3. Erosion and Runoff control measures to be employed

e. Testing laboratory to be employed during construction.

2. Embankment Construction (ODOT 203 shall be modified as follows):

a. Density tests to be performed throughout the construction, at the following frequency: one test each lift; each 200 square feet (18.58$m^3$).

b. If a nuclear density meter is used, one (1) test by non-nuclear method shall be performed for each twenty-five (25) tests performed by the nuclear method.

c. A one-point Proctor test shall be performed at least once daily to assure consistent performance of the material to be placed in the embankment.

d. Should the moisture content of the material being placed deviate from the optimum (as determined by the Moisture Density Curve) by more than 3%, placing and compaction efforts shall cease until moisture control has been restored.

e. The complete embankment shall be constructed in accordance with these specifications. These specifications are not limited to the Right-of-Way.

C. Final Acceptance
Upon completion of the work, the contractor shall present to the City a final acceptance report containing the following elements:

a. As Built Drawings; showing final grades
1. Two (2) marked Blue line copies
2. One (1) marked Mylar

b. A set of plans, on digital format, showing all as-built information such as utilities, under and above-ground, sidewalks, street trees and street lighting poles.

c. Original copies of all Material Specifications and Warranties

d. Indexed copies of Testing Reports, including retests of failed initial tests.

e. Copies of all Independent Inspection Reports

f. Copy of the Certificates of Occupancy

g. Certificate of Payment

D. Landscaping

All landscaping within the street right of way shall be done in accordance with the Subdivision Improvement Plan approved by the City Engineer and Parks/Urban Forestry. No landscaping is to be performed until the E/CM office determines that all work in the areas to receive trees or other landscaping is complete. Please refer to Section X, Landscaping.

## XVII APPROVAL OF PLAT OF SUBDIVISION AND DEDICATION PROCEDURE

The intent of the City of Cincinnati is to eventually review subdivision improvement plans and record plats digitally with all sets of plans submitted in a digital format compatible with the system utilized by the City of Cincinnati. Once the digital system is in place, the review process will be the same as that outlined below for paper sets of plans.

A. Plat Approval

1. The Engineering/Highway Design office shall be the coordinating agency for all reports and assembly of data for approval of the Plat of Subdivision and acceptance by Council of the streets dedicated thereon; and for assembling the information and preparing the necessary correspondence for the cancellation of the contract and bond in connection with subdivision development.

2. Upon preparation of preliminary record plats, five (5) sets of prints should be submitted to the City Planning Department as soon as possible for a quick initial review by Planning, Engineering/Highway Design (E/HD), Metropolitan Sewer District (MSD), Stormwater Management Utility (SWMU), Cincinnati Water Works (CWW) and Engineering/Construction Management (E/CM). Initial review comments by the above five agencies will enable preparation of more complete plans for the formal review, and correct any major faults in the plan. The comments will be returned to developer's engineer.

3. Twelve (12) sets of prints and a closure are submitted to Planning for a City-wide formal review. E/HD receives ten (10) sets; and is the coordinating agency for the remainder of the review process.

4. Under the present subdivision laws and regulations, the subdivider cannot transfer lots without the Plat of Subdivision being placed on record. It is in the interest of public relations that all Divisions and Departments of the City give their fullest cooperation to expedite the necessary reports, so that the Plat of Subdivision can be processed expeditiously.

5. After the Plat of Subdivision prints are received by the E/HD, they will be transmitted, together with a request for a report, to the following units of the City:

    a. Cincinnati Water Works Department, as to where water main and appurtenances have been satisfactorily established. The CWW should also review the record plat as to whether the appropriate water main easements, if any, are shown on the Plat, as well as whether the water main and appurtenances have been satisfactorily established.

b. Metropolitan Sewer District, as to whether all sewer easements needed are shown on the Plat and, in the case of Lift-station(s), that compliance has been made with all M.S.D. requirements (M.S.D. to be furnished revised print if changes are made).

c. Engineering/Construction Management Office, as to satisfactory completion of all street and sewer work.

d. Storm Water Management Utility, as to whether all storm sewer easements needed are shown, and that any storm water detention area is present on plat.

e. Traffic Engineering

f. Cincinnati Park Boards/Urban Forestry Management Section (UFMS), to approve trees and to begin the special frontage assessment process.

g. E/HD, while waiting receipt of reports, will check the technical features of the plat.

6. When all City agencies have reported to E/HD, review comments will be transmitted to the developers' engineer.

7. When all requested revisions to the plat have been made, two (2) sets of prints should be delivered to E/HD for final check. If further revisions are necessary, they must be made at this time.

8. Upon completion of all revisions, a set of original mylars must be provided for presentation before City Planning. (Planning Commission meetings are generally held every Friday morning).

9. A Homeowner's Agreement must be prepared by the Owner and approved by the City of Cincinnati. (See Section XIX - Homeowner's Agreement)

10. Upon approval by the Commission, the original mylar is signed by the Director of Planning and will be circulated for signing by Metropolitan Sewer District, and Hamilton County Administrator (if applicable).

11. The plat is returned to E/HD for printing and then released to Developer for recording.

B. Dedication - Agreement and Bond

1. Generally, the plat of subdivision is processed through the City agencies, and then released for recording, prior to completion of all construction items. Under that circumstance, an Agreement entered into by the owner/developer and the City of Cincinnati must be provided, agreeing to completion of all proposed work. A Bond must be provided to ensure compliance with the Agreement. The necessary forms will be prepared by E/HD.

2. The Surety is calculated as: the total of 10% of the estimated cost of the entire subdivision improvement, and 100% of the estimated cost of the uncompleted construction items. Upon completion of all construction items, and commencement of the warranty period, the bond may be reduced to either 10% of the original bond amount or $10,000; whichever is the greater amount.

3. The one-year warranty period will commence upon completion of all construction items, as determined by Engineering/Construction Management Section.

4. The Surety will apply to all items contained within the Approved Subdivision Improvement Plan, and must remain in effect throughout the construction and dedication period.

5. Upon commencement of the warranty period, a "Certificate of Title and Guarantee of Payment of Taxes" document must be provided by the owner of the development. The appropriate form will be provided by E/HD.

6. Upon expiration of the warranty period, if all work has remained satisfactory, the City Manager will release the bond. All excess review and inspection monies will be returned, if any.

7. The owner/developer will be notified of any remedial construction items prior to release of bond. Any work required must be performed satisfactorily prior to release of bond.

8. Preparation of an ordinance accepting the street(s) as public will be requested at commencement of the warranty period.

9. After approval by the Planning Commission, the Plat of Subdivision will be returned to E/HD. If sanitary sewer easements are being offered for acceptance, the Engineering Division will transmit the original mylar to the Metropolitan Sewer District for signing by Sewer's Chief Engineer and the County Administrator. If water main easements are being offered for acceptance, the Public Works Engineering Division should transmit the

original mylar to Water Works, as well as M.S.D., for Water Works approval. Once the follow- up coordinated report is circulated to all departments, the Water Works can check all items, (i.e. water main and branch installations, easements, etc.) After signing, the plat will be returned to E/HD. Sufficient prints will be made, or provided by owner/developer, for filing with all necessary City agencies.

10. The plat may then be returned to the owner for recording, providing that all required agreements, bonds, and the Certificate of Title have been received by E/HD.

11. When the subdivider offers the streets to the City for acceptance, a coordinated report will be requested by E/HD accompanied with prints, Title Statement and Guarantee to Pay Taxes.

12. Upon satisfactory completion of the coordinated report, the Law Department/Real Estate Division shall be requested to proceed immediately with the preparation of an ordinance accepting the streets and easements within the subdivision. In the normal course of events, it will take approximately 6 to 8 weeks from the time the Plat of Subdivision has been recorded by the subdivider to the passage of the ordinance accepting the streets and easements.

13. If adverse comments surface as a result of the coordinated report, all issues must be rectified prior to preparation of a dedication acceptance ordinance.

    a. A report will be prepared by E/HD for transmittal to the owner/developer informing him of the required repairs.

    b. Disagreement regarding the required repairs will be decided by the City Manager.

## XIX HOMEOWNER'S AGREEMENT

Prior to presentation of the Record Plat to the Cincinnati Planning Commission for approval, a Homeowner's Agreement must be prepared in a form acceptable to the City and recorded with the Hamilton County Recorder's Office. The agreement must provide for continual maintenance of all the following jointly owned, private facilities.

1. Green Spaces
2. Roadways
3. Storm and Sanitary Sewers
4. Stormwater Detention Basin
5. Any Structure within the Public Right-of-way
6. Street Lighting

Responsibility for preparation of the agreement is that of the project owners. Review of the document will be performed by the City of Cincinnati.

## XX RECORDED PLAT - CLOSURES, ETC.

A. No plat of a subdivision will be accepted for platting on the Auditor's Tax Maps which does not comply with the following rules:

1. Any subdivision plat submitted to the Hamilton County Auditor for platting on the tax maps of Hamilton County, by the County Engineer, shall have included thereon the closure calculations of the perimeter or boundary of said subdivision. This closure calculation shall show the bearing and distance of each course around the perimeter or boundary of the subdivision, the northings, southings, eastings and westings of said courses and the individual sums of their closures east and west and north and south.

2. The plat shall also bear the seal and signature of a registered surveyor licensed to practice within the State of Ohio. All irregularly shaped lots shall have positive courses and distances shown on the boundaries of said lots.

3. All irregularly shaped lots shall have a closure error of not more than one in ten thousand (1 in 10,000).

4. All conveyances submitted to the Hamilton County Auditor for platting on the tax maps by the County Engineer shall contain sufficient description or dimensions so that the area described can be platted and surveyed, and shall be referenced or "tied in" to some well established and recorded point or monument as stated below.

B. All subdivision plats shall be referenced or "tied in" to one or more of the following.

1. A corner of a lot in a recorded subdivision.
2. A corner of a recorded subdivision.
3. The definite intersection of two intersecting dedicated and accepted or established streets or roads.
4. A section corner, a patent corner of a Military Survey, a quarter section corner, or a registered land corner.
5. The intersection of a section line, a patent line of a Military Survey, or half section line with a dedicated and accepted or established street or road.
6. The intersection of a dedicated and accepted or established street and a lot line of a recorded subdivision.

C. SURVEY MARKERS
Monuments shall be set in accordance with the requirements of Chapter 711.03 of the Ohio Revised Code.

1. Monuments - There shall be three (3) monuments placed on the boundaries of all subdivisions, two (2) of which shall be on a straight line, not less than three hundred feet (300') long. Should none of the straight boundary

lines be three hundred feet (300') in length, the longest straight line shall have monuments at its extremities.

2. Subdivisions having more than thirty (30) lots shall have an additional monument for each additional twenty (20) lots or fraction thereof. These monuments shall be located on the record plat and certified by the registered surveyor responsible for placing same.

## XXI COMMENCEMENT OF CITY SERVICES

Commencement of services provided by the City of Cincinnat is at staggered intervals depending on the service and the stage of construction/dedication.

1. Waste Collection - First resident of street contacts Sanitation and requests service; street/subdivision construction and/or dedication not a factor.

2. Fire Protection - Available at all times.

3. Police Protection

    a. Criminal investigation available at all times.

    b. Traffic mishaps will be investigated and reports written. Traffic citations may not be issued until street has been accepted as a public street.

4. Maintenance

    a. Street, water main and sewer repairs will be the responsibility of the owner/developer of the subdivision until the street has been accepted as a public street and at end of warranty period.

    b. Salting of streets and snow removal will be the responsibility of the owner/developer, until acceptance as a public street and expiration of the warranty period.

5. Traffic Signing - Standard City of Cincinnati street name signs will be installed by Traffic Engineering at time of street dedication. Prior to dedication, during construction, owner/developer is responsible for identification of street and site. When construction is nearing completion and if residents are occupying street, the owner/developer may petition Traffic Engineering for installation of a street name sign. Prior to acceptance, any City street sign will have a yellow "Private Street" tab on it.

    a. Refer to City of Cincinnati "Rules and Procedure for Traffic Control Devices and Street Lights in New Subdivisions"; Section XI.

6. Postal Service

    Mail delivery will commence upon notification of residency, by the individual resident, to the United States Postal Service.

7. Forestry Services

The City is responsible for the maintenance of all street trees. It accomplishes this through the Urban Forest Management Section of the Park Board, 861-9070, and pays for the work with an annual assessment on private property. The first December after the public right-of-way is dedicated and accepted by the City of Cincinnati, a special front foot assessment will appear on the real estate tax bills for all abutting lots. It will not be on the June bills. This assessment will be levied annually as long as City Council approves it. Property owners should contact Forestry when tree work is needed, but may do it themselves after obtaining a permit, usually free, from Forestry. Under certain circumstances, out of pocket expenses paid to do tree work for the City after getting the permit may be considered a tax deductible contribution for Federal tax purposes.

8. Water and Sewerage

Available when systems are complete and accepted as such by the appropriate utility. If systems were presented as public, dedication process must be underway.

RECOMMENDED:

2/13/96

Prem K. Garg City Engineer

The above "Rules and Regulations for Engineering Design of Streets for Private Subdivisions or Developments, and Procedure in Obtaining Approval and Acceptance Thereof," are hereby approved and made effective

2/14/96

John H. Hamner Director of Public Works